

SI507 - Final Project by Qi Zhou (Copy)

Overall

My project will build the application which can help users to draw the online graphs by using the data from our database or the local files. There will be several routes for this application. For example, in one of the routes, you can register to be the member of the application. For another route, you will login by your username and password. In other routes, you can choose the data not only from our database but also your local files to draw pictures. **The project will allow users to** register and login, use the data whatever application offers or their local files to draw the graphs, share the data with other users.

I want to focus on the information visualizing from the dataset and human-computer interaction, collect data from users and share it.

Interface description

- Route 1: [/welcome](#) →
This page will show the welcome interface and some guide for use
- Route 2: [/register](#) →
This page will show the register interface for new users, which require you set up username and password
- Route 3: [/login](#) →
This page will show the login interface which needs your username and password. After the login, the interface will alert you that you are login successfully or failed to login.

- Route 4: [/draw_graph/<local_path>/<file_name>](#) →
This page will get the data from the local path and file name you offered and draw the graph.
- Route 5: [/draw_graph/<database>/<id>](#) →
This page will get the data from the application's database by id you enter.
- Route 6: [/save/ <local_path>/<file_name>](#)→
This page will save the files you offered
- Route 7: [/save/ <local_path>/<file_name>](#)→
This page will save the files you offered to the application's database

Specifics

I will be relying on data from the database which I created when I do this project. And for more data, I will rely on the users to offer their special data for the local files.

An example of my data the application will be used is here: wind_speed.txt
(https://github.com/zqcarlos/SI507_final_project/blob/master/wind_speed.txt)

I expect my database schema to include 3 tables. The entities each table will represent are: User entities, id, Username, Password ; Datafile entities, id, file_name, file_type; Graph entities, id, graph.

There will be a many to many relationship between User table and Datafile table

Different users can choose whatever datafile they like and one datafile will be used by different user. And for the Graph table and Datafile, they are one to one relationship.

I will be populating the database when I do this project. And for more data, saving data to the database when users choose the local files is the main way to get further data.

I am planning to use the following modules in writing my code, aside from Flask and SQLAlchemy or some equivalent:

- *matplotlib* - for charting
- *tkinter* - for UI design

I will be defining the following functions outside of Flask routes: `get_file` function:

This function will be used to read the file in the local computer

`draw` function: This function will be used to draw the graph of the data which is chosen.

I will be defining the following classes outside of Flask routes/models: `class`

`FilterContainer`

This class will mainly designed to work for getting data which many have some problem that can no be used directly.

The assignment(s) in 507 we've done that are most like what I want to do are:
Project 2

Other useful resources for this project for me will be: <https://matplotlib.org/>

Other

My biggest concerns about my work on this project are how to write about the test file because we need first register for the membership and then login and for other test result.

I feel confident that I can complete all the part I designed above

Also, I believe the user interface I design will be user-friendly and concise.